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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/591,500

05/25/2007

Kazuo Tagawa

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FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER
LLP
901 NEW YORK AVENUE, NW
WASHINGTON, DC 20001-4413

EXAMINER

VASISTH, VISHAL V

ART UNIT

PAPER NUMBER

1771

MAIL DATE

DELIVERY MODE

12/07/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/591,500	Applicant(s) TAGAWA ET AL.	
	Examiner VISHAL VASISTH	Art Unit 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicants' submission filed on 26 October 2010 has been entered.

Response to Amendment

2. Applicants' response filed on 10/26/2010 amended independent claim 1. Applicants' amendments do not overcome the 35 USC 103 rejection over Cohen in view of Shimomura set forth in the office action mailed on 7/27/2010; therefore, this rejection is maintained below. Neither applicants' amendments nor arguments addressed below, overcome the 35 USC 103 rejection over Cohen from the office action mailed on 7/27/2010 and therefore this rejection is also maintained below and incorporated herein by reference.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1 and 4-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen et al., US Patent No. 6,736,991 (hereinafter referred to as Cohen) in view of Shimomura et al, US Patent No. 6,231,782 (hereinafter referred to as Shimomura).

Cohen discloses a refrigeration lubricant comprising up to 99 wt% of a naphthenic mineral oil (Col. 3/L. 37-40), a hydrofluorocarbon refrigerant and a nonionic surfactant. The naphthenic mineral oils are made by contacting them with sulfuric acid and filtering with either clay or bauxite, which is a form of hydrotreatment and/or refining as evidenced below by Shimomura, to reduce sulfur and nitrogen-containing heterocyclic compounds and improve low temperature properties. The sulfur and nitrogen compounds have been reduced such that the total sulfur and nitrogen is at low levels 0.05 wt% or less and the %C_A of the naphthenic mineral oil is 14. Cohen also discloses that the kinematic viscosity of the mineral oils range from 13-100 cSt at 40°C (Col. 3/L. 5-15/Table 1).

Cohen further discloses the presence of additional additives to formulate the finished refrigerating composition. Such additives include phosphorus compounds but

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not the specific phosphorus compounds of claim 1 (Col. 7/L. 3-4) and additional anti-wear additives and sulfur-containing extreme pressure agents (Col. 7/L. 1-11) but not phosphorothionates.

Shimomura discloses a refrigerator oil composition comprising, a major amount of a base oil preferably a mineral oil, 0.01 to 5.0 mass% of a phosphorus compound such as amine salts of acidic phosphorus esters (Col. 9/L. 23-31 and Col. 10/L. 13-21) and at least 0.1 wt% of a sulfur compound such as a phosphorothionate (Col. 12/L. 7-47).

Shimomura further discloses that the mineral oil is obtained by refining means such as solvent deasphalting, solvent extraction, hydrogenolysis, solvent dewaxing, catalyst dewaxing, hydrofinishing, sulfuric acid washing and clay treatment to treat lubricant oil fractions obtained from the atmospheric distillation and vacuum distillation (as recited in claims 4-5) (Col. 2/L. 56-65).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the phosphorus and phosphorothionate compounds of Shimomura in the composition of Cohen in order to improve the wear resistance and load capacity of the composition (Col. 9/L. 23-25 and Col. 12/L. 7-8 of Shimomura).

Claim Rejections - 35 USC § 103

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen.

The rejection from Paragraph 5 of office action mailed on 7/27/2010 is maintained and incorporated herein by reference.

Response to Arguments

7. Applicants' arguments filed on 10/26/2010 with respect to claims 1 and 4-12 have been considered and are not persuasive.

Applicants' arguments regarding the Cohen/Shimomura combination is without merit because Shimomura explicitly discloses phosphorus compounds including the ones enumerated in amended claim 1 in columns 9-10.

Applicants also allege unexpected results and provide data in the specification that allegedly supports the applicants' position along with a Declaration signed on 11/13/2009 by Yuji Shimomura. However, the claims are still not commensurate in scope with the claims.

In the instant case, the example oils 1-2 and 6 on pages 48-50 of the instant specification disclose a mineral oil with an aromatic ring structure in the mineral oil of 8-12 which is also narrower than the range recited in instant claim 1. No criticality of the range recited in instant claim 1 has been shown and no trends can be ascertained from the data provided. The same is true for the sulfur content of the inventive oils 1, 2 and 6 wherein no criticality of the broader range has been shown by applicants. Also, the base oils of the specification are all limited by kinematic viscosities which are not present in independent claim 1 and are very broad with no trend analysis in independent claim 8.

Furthermore, from table 2 of page 53 of the instant specification it is evident that the base oil is present within a narrow concentration range which is not recited in instant claim 1. In addition the additives present in the example oils as very specific

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phosphorus compounds which are broadly recited in independent claim 1 and not present in independent claim 8 and their concentrations in the dependent claims are much broader than the example oils from the specification with no trends or criticality shown for the concentrations.

Unexpected results have not been demonstrated also because example oils 4-14 merely demonstrate that the higher concentration of additives the lower the coefficient of friction. For example, example oils 8-14 – have the highest concentrations of C additives and consequently have the lowest coefficient of frictions. This is further exemplified by example oils 15 and 16 which the examiner is treating as comparative examples because they are outside the current claim limitations. By applicants own assertion the oiliness improvers (additive C) from the tables of the instant specification do lower coefficient of frictions and therefore adding these additives to a base oil to lower the coefficient of friction is hardly unexpected.

Also, none of the additional additives, namely B1 and C1-5 from the Tables 2-3 of the instant specification, are reflected in instant claim 1. Finally, in order for applicants to demonstrate unexpected results there must be a comparison to the closest prior art. Applicants' Declaration merely showed that Shimomura had a sulfur content outside the range and if the sulfur content were adjusted to be within the range that the aromatics content would then be outside the range of the instant claims. There were other base oils in the broad disclosure of Shimomura that would read on the instant claims.

Applicants argue that base oil 4 of Shimomura discloses a sulfur content outside the range as recited in instant claim 1 and the Declaration signed by Yuji Shimomura on 11/13/2009 further showed that if the sulfur content was decreased to be within the claimed range that the content of aromatics would also decrease and possibly be outside of the range recited in claim 1. This argument is persuasive and therefore the 35 USC 103 rejection over Shimomura is withdrawn. In the instant rejection Shimomura is not introduced for its disclosure of base oils but instead for its disclosure of additives in refrigeration oil compositions.

Applicants also argue that Cohen does not teach the sulfur content in the range as recited in instant claim 1. This argument is also not persuasive. Cohen in column 3 clearly states that the mineral oils are filtered to reduce sulfur and nitrogen contents and that the respective concentrations of both sulfur and nitrogen have been reduced to levels of 0.05% (500 ppm) or lower which clearly overlaps and encompasses the range as recited in claim 1. The full disclosure must be taken into account and not simply the example oils from Cohen. "In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976)."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VISHAL VASISTH whose telephone number is (571)270-3716. The examiner can normally be reached on M-R 8:30a-5:30p.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571)272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

VVV

/Ellen M McAvoy/
Primary Examiner, Art Unit 1771